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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CRUTCHFIELD, CHRISTOPHER M	
ART UNIT	PAPER NUMBER
2619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,075	RUNE, JOHAN	
	Examiner	Art Unit	
	Christopher M. Crutchfield	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/01/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. **Claims 1-12** are rejected under 35 U.S.C. 101 because they recite a mere abstract idea, that is, an algorithm for arranging virtual local area networks. *See* MPEP 2106(IV)(A), Rubber-Tip Pencil Co. v. Howard, 87 U.S. (20 Wall.) 498, 507 (1874) and Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759. Furthermore, the claims do not fall within any judicial exception because they fail to produce a physical transformation outside of the system or a useful, concrete and tangible result. *See* MPEP 2106(IV)(C)(2).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 13-23** are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a

complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claims 1, 2, 13, and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lou*, et al. (US Pre Grant Publication No 2007/0201494 A1) in view of *Lee*, et al. (US Pre Grant Publication No. 2002/0080800).

Regarding claims 1 and 13, *Lou*, et al. discloses a method in an access network for preventing hosts connected to the access network from communicating directly with each other, (Figure 23, PLG's are in separate VLANs 1-6 and Paragraph 0019) the access network comprising an access router (Figure 23, Element 2202 and) and one or more switches (Figure 23, Element 2303, "Power Line Gateway" and Paragraph 0115) wherein the hosts being in communication contact with the access router via the switches, (Figure 23, Elements 2202, 2302, 2206 and 2306-2318) the method comprising the steps of Defining Virtual Local Area Networks, VLANs, in the switches such that traffic arriving into the switches from the hosts is forced to the access router (Figure 23, PLG's are in separate VLANs 1-6 and Paragraph 0011 and 0019).

However, *Lou* fails to disclose defining in the switches one downlink VLAN being asymmetric and carrying downlink traffic from the access router to said hosts, said downlink VLAN being common to said hosts connected to the access network configuring the VLANs such that said hosts connected to the access network belong to the same IP subnet and configuring the access router to be an Address Resolution Protocol proxy and to perform intra-subnet routing. In the same field of endeavor, *Lee*

discloses defining in the switches one downlink VLAN being asymmetric and carrying downlink traffic from the access router to said hosts, (Paragraph 0039 - The proxy ARP server has its own VLAN which is used for downlink ARP transmission and belongs to all LANs in the system) said downlink VLAN being common to said hosts connected to the access network configuring the VLANs such that said hosts connected to the access network belong to the same IP subnet (Paragraph 0030) and configuring the access router to be an Address Resolution Protocol proxy and to perform intra-subnet routing (Paragraphs 0029 and Figure 3).

Therefore, since *Lee* suggests the use of an asymmetric VLAN ARP proxy among inter-subnet VLANs, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the ARP proxy as disclosed by *Lee* into the teaching of *Lou*. The motivation is provided by *Lee* and is to allow faster communications by performing some of the tasks of the ARP Proxy at layer 2 instead of layer 3 (Paragraph 0016).

Regarding claims 2 and 14, *Lou* fails to disclose said hosts comprise all hosts connected to said access network. In the same field of endeavor, *Lee* discloses said hosts comprise all hosts connected to said access network (Paragraph 0039).

Therefore, since *Lee* suggests the use of a asymmetric VLAN ARP proxy among inter-subnet VLANs, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the ARP proxy as disclosed by *Lee* into the teaching of *Lou*. The motivation is provided by *Lee* and is to allow faster

communications by performing some of the tasks of the ARP Proxy at layer 2 instead of layer 3 (Paragraph 0016).

9. Claims 3, 4, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lou*, et al. (US Pre Grant Publication No 2007/0201494 A1) in view of *Lee*, et al. (US Pre Grant Publication No. 2002/0080800) as applied to claim 1 above and further in view of *Klink*, et al (US Pre Grant Publication No. 2004/0013085).

Regarding claims 3 and 15, *Lou* discloses defining in the switches one uplink VLAN carrying uplink traffic from said hosts to the access router, said uplink VLAN being common to said hosts connected to the access network (Figure 23, Connection between Port 0 of the termination module and the PL node is a single VLAN that is common to the hosts). However, *Lou* fails to disclose the uplink traffic is on an asymmetric VLAN. In the same field of endeavor *Klink* discloses the use of unidirectional paths between network devices (Figure 3, WE) (The specified embodiment states that a MPLS path is established, but the specification states the other protocols may be used [Paragraph 0017]).

Therefore, Since *Lou* suggests the use of unidirectional paths to connect network devices, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the unidirectional paths as disclosed by *Klink* into to the VLANs of *Lou*. The motivation to combine is to allow the uplink and the downlink to follow different paths, thereby reducing load on a single path.

Regarding claims 4 and 16, *Lou* fails to disclose defining in the switches in the fixed access network one uplink VLAN for each of said hosts or for each of one or more groups of said hosts, said uplink VLANs being used for traffic from said hosts to the access router (Figure 23, Connection between Port 0 of the termination module and the PL node is a single VLAN that is common to the hosts). However, *Lou* fails to disclose the uplink traffic only is transmitted on a VLAN. In the same field of endeavor *Klink* discloses the use of unidirectional paths between network devices (Figure 3, WE) (The specified embodiment states that a MPLS path is established, but the specification states the other protocols may be used [Paragraph 0017]).

Therefore, Since *Lou* suggests the us of unidirectional paths to connect network devices, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the unidirectional paths as disclosed by *Klink* into to the VLANs of *Lou*. The motivation to combine is to allow the uplink and the downlink to follow different paths, thereby reducing load on a single path.

10. **Claims 5, 6, 7, 8, 9, 17, 18, 19, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lou*, et al. (US Pre Grant Publication No 2007/0201494 A1) in view of *Lee*, et al. (US Pre Grant Publication No. 2002/0080800) as applied to claim 1 above and further in view of *Thompson*, et al. (US Pre Grant Publication No. 2002/0022483).

Regarding claims 5 and 17, *Lou* discloses defining in the switches in a fixed access network one uplink VLAN for each of said hosts or for each of one or more groups of said hosts, said uplink VLANs being used for uplink traffic from said hosts to the access router and further defining said uplink VLANs to also transfer downlink unicast traffic from the access router to the hosts (Figure 23, Each PLG has a separate VLAN and Paragraph 0162).

Regarding claims 6 and 18, *Lou* discloses defining in the switches in a wireless access network one uplink VLAN for each wireless gateway connection or for each of one or more groups of wireless gateway connections, the uplink VLANs being used for uplink traffic from the wireless gateway connection and the hosts connected to the wireless gateway connection to the access router (Figure 23, PLG's are in separate VLANs 1-6 and Paragraph 0019 and Paragraph 114 and Figure 10, Elements 272 and 292 [Showing the PL gateway may be wireless). However, *Lou* does not disclose that the wireless gateway connection is a wireless LAN access point. In the same field of endeavor, *Thompson* discloses the use of a wireless LAN access point (Paragraph 044 and Figure 1, Element 120).

Therefore, since *Thompson* discloses the use of a wireless LAN access point it would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply a system and a method of using a wireless LAN access point as disclosed by *Thompson* into the system and method as taught by *Lou.* The motivation is to allow a system that is compatible with the widely distributed 802.11 wireless LAN protocol.

Regarding claim 7, *Lou* discloses configuring Access Points in a WLAN to prevent hosts connected to the same AP from communicating directly with each other through the AP by extending the downlink VLAN and the uplink VLAN to incorporate the AP or by utilizing the inherent configuration abilities of the AP. (Figure 23, PLG's are in separate VLANs 1-6 and Paragraph 0019 and Paragraph 114 and Figure 10, Elements 272 and 292 [Showing the PL gateway may be wireless). However, Lou does not disclose that the wireless gateway connection is a wireless LAN access point. In the same field of endeavor, *Thompson* discloses the use of a wireless LAN access point (Paragraph 044 and Figure 1, Element 120).

Therefore, since *Thompson* discloses the use of a wireless LAN access point it would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply a system and a method of using a wireless LAN access point as disclosed by Thompson into the system and method as taught by *Lou*. The motivation is to allow a system that is compatible with the widely distributed 802.11 wireless LAN protocol.

Regarding claims 8 and 19 *Lou* discloses providing in the switches the frames sent from the hosts to the access router with VLAN tags and configuring the access router to be VLAN aware (Figure 23, PLG's are in separate VLANs 1-6. Therefore, the switch is VLAN aware because it assigns and forewords VLAN tags).

Regarding claims 9 and 20 *Lou* discloses configuring the VLANs as shared VLANs (Figure 23, The VLANS are shared among the power line gateway and the power line node).

11. **Claims 10 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lou*, et al. (US Pre Grant Publication No 2007/0201494 A1) in view of *Lee*, et al. (US Pre Grant Publication No. 2002/0080800) as applied to claim 1 above and further in view of *Sistanizadeh*, et al. (US Patent No. 6,101,182).

Regarding claims 10 and 21 *Lou* does not disclose retrieving by the access router address mapping information for the hosts during the user authentication procedure. In the same field of endeavor, *Sistanizadeh* discloses retrieving by the access router (Figure 1, Element address mapping information for the hosts during the user authentication procedure (Column 18, Lines 4-9).

Therefore, since *Sistanizadeh* suggests the retrieving of address mapping information by the access router during authentication, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a method and apparatus for retrieving of address mapping information by the access router during authentication as disclosed by *Sistanizadeh* into the teachings of *Lou*. The motive to combine is to enable the use of address assignment and authentication.

Regarding claim 11 and 22 *Lou* does not disclose retrieving, by the access routers, address mapping information for the hosts during the IP allocation procedure. In the same field of endeavor, *Sistanizadeh* discloses retrieving by the access router (Figure 1, Element address mapping information for the hosts during the during the IP allocation procedure (Column 18, Lines 4-9).

Therefore, since *Sistanizadeh* suggests the retrieving of address mapping information by the access router during authentication, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a method and apparatus for retrieving of address mapping information by the access router during authentication as disclosed by *Sistanizadeh* into the teachings of *Lou*. The motive to combine is to enable the use of address assignment and authentication.

12. **Claims 12 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lou*, et al. (US Pre Grant Publication No 2007/0201494 A1) in view of *Lee*, et al. (US Pre Grant Publication No. 2002/0080800) as applied to claim 1 above and further in view of *Yamaya*, et al. (US Pre Grant Publication No. 2002/0184387)

Regarding claims 12 and 23 *Lou* does not disclose providing more than one access router in the access network, the VLANs being configured such that the access routers belong to the same VLANs. In the same field of endeavor, *Yamaya* discloses providing more than one access router in the access network, the VLANs being configured such that the access routers belong to the same VLANs (Figure 15, Elements 10 and 11 and Paragraph 0131).

Therefore, since *Yamaya* suggests the use of redundant routers on the same VLAN it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a method and apparatus for the use of redundant routers on the same VLAN as disclosed by *Yamaya* into the teachings of *Lou.* The motive to combine is provided by *Yamaya* and is to provide backup in case one router fails (Paragraph 0002).

Conclusion

9. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a. *Wilson*, et al. (US Patent No. 7,356,841)

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Crutchfield whose telephone number is (571) 270-3989. The examiner can normally be reached on Monday through Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Nguyen can be reached on (571) 272-3159. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher M. Crutchfield/
Examiner, Art Unit 2619
5/23/2008